

IN THE CLAIMS:

Please cancel Claims 1-9 without prejudice or disclaimer of the subject matter recited therein and amend Claim 10, as follows:

1 -9 (Canceled)

10. (Currently Amended) An image pickup apparatus comprising:

a solid-state image pickup element formed on a single semiconductor chip, said solid-state image pickup element including:

photoelectric conversion units arranged two-dimensionally;

a plurality of CCDs adapted to transfer charges generated by said photoelectric conversion units, each of said plurality of CCDs being arranged correspondingly to each line of photoelectric conversion units;

a plurality of charge detection circuits adapted to detect the charges from said CCDs and supplying corresponding signal levels, each of said plurality of charge detection circuits being arranged correspondingly to each CCD; ~~and~~

a plurality of A/D conversion circuits adapted to generate digital signals from the differences between the signal levels supplied by said charge detection circuits and noise levels of said photoelectric conversion units, respectively, each of said A/D conversion circuits being arranged correspondingly to each charge detection circuit; and

a plurality of circuit elements, each providing a ramp-shaped reference voltage to a respective one of the plurality of charge detection circuits in response to receiving a digital signal from a respective one of said plurality of A/D conversion circuits.

11. (Original) An apparatus according to Claim 10, wherein said A/D conversion circuit comprises a sequential-comparison-type circuit.

12. (Previously Presented) An apparatus according to Claim 10, further comprising a lens adapted to form a light image on said solid-state image pickup element, and

a signal processing circuit adapted to process a signal from said solid-state image pickup element.

13. (Original) An apparatus according to Claim 11, wherein said CCD and said charge detection circuit are separated by a well.

14. (New) An apparatus according to Claim 10, wherein each of said plurality of A/D conversion circuits comprises a counter.

15. (New) An apparatus according to Claim 10, wherein each of said plurality of circuit elements is adapted to receive output range switching information.

16. (New) An apparatus according to Claim 10, wherein each of said plurality of circuit elements comprises a D/A converter.

17. (New) An apparatus according to Claim 16, wherein each of said plurality of charge detection circuits comprises a floating diffusion amplifier, the source of which receives an output of its respective D/A converter and the gate of which receives charges from its respective CCD.